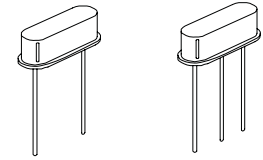




## LP Crystal Series



- HC-49/US Low Profile Metal Thru-Hole Crystals
- Available in 3 heights, LP49: 3.5mm, LP24: 2.5mm, LP21: 2.1mm and with 3rd Case Pin: 3LP49

3.000 MHz – 70.000 MHz

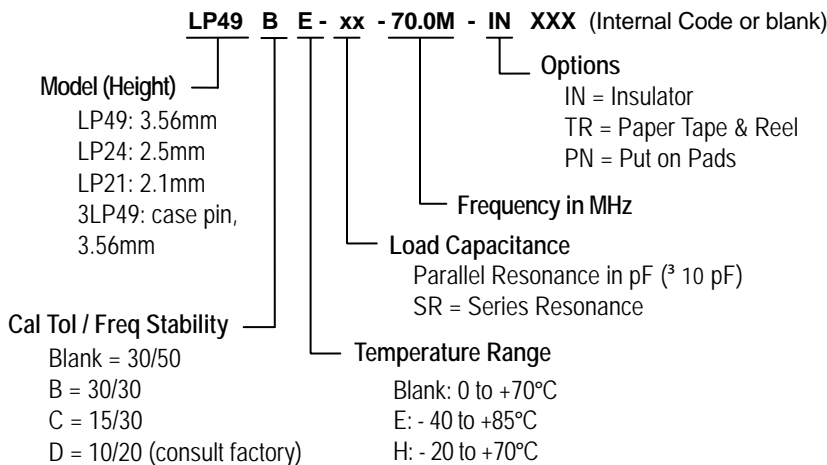
### Standard Specifications

Calibration Frequency Tolerance at 25 °C	± 30 PPM is standard, tighter tolerances available
Operating Temperature Range (OTR)	0 to +70°C is standard, but can be extended to -40 to +85°C
Frequency Stability (FS) over OTR	± 50 PPM is standard, tighter tolerances available
Drive Level	50 μW is standard, customer may specify
Aging at 25°C	± 5 PPM per year is standard, customer may specify ± 1 PPM
Shunt Capacitance	7 pF maximum
Pullability	

May be specified by customer in terms of frequency shift required over a certain range of load capacitance (e.g. +100 PPM from CL=12 to CL=18 pF) or as motional capacitance ( f F )

### Part Numbering Guide

Portions of the part number that appear after the frequency may not be marked on part (C of C provided)



### ESR Values

Oscillation Mode	Frequency Range (MHz)	Maximum ESR (Ohms)
Fundamental AT Cut	3.000 – 3.999	200
	4.000 – 4.999	150
	5.000 – 5.999	120
	6.000 – 6.999	100
	7.000 – 7.999	80
	8.000 – 12.999	50
3rd Overtone AT Cut	13.000 – 30.000	40
	25.000 – 70.000	100

Consult factory for lower ESR

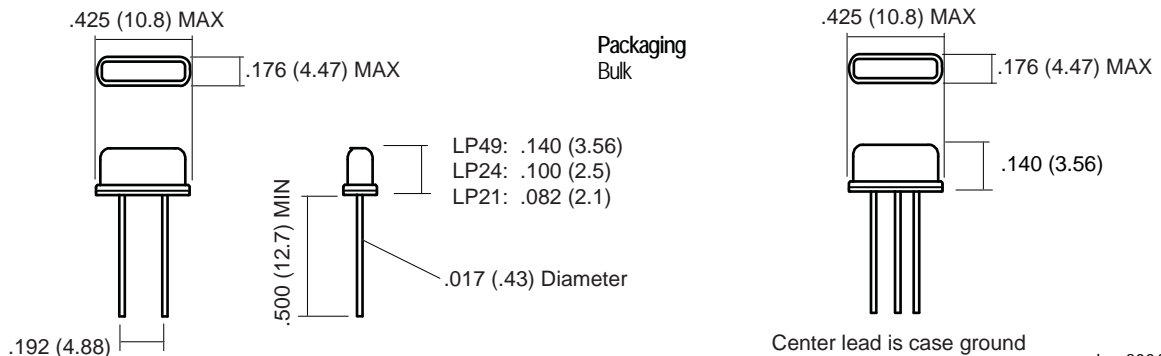
Consult factory for available frequencies and specs. Not all options available for all frequencies. A special part number may be assigned.

### Mechanical: inches (mm)

not to scale

### 3LP49

Due to part size and factory abilities, part marking may vary from lot to lot and may contain our part number or an internal code.



Jan 2006